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| | | | | U. S. PATENT D | | |
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| Examiner Initials* | Cite | | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or | Pages, columns, lines, where relevan |
| Initials* | No.1 | Number-Kind Code ² (if known) US- 2,690,433 | | | Applicant of Cited Document | passages or relevant figures appear |
| | | | | 07/22/1952 | W. F. Engel, et al. | |
| | | US- | 2,873,257 | 02/10/1959 | E. A. Hunter, et al. | |
| | | US- | 2,946,738 | 07/26/1960 | L. E. Gardner, et al. | |
| | | US- | 3,198,753 | 08/03/1965 | F. Traina | |
| | | US- | 3,280,040 | 10/18/1966 | J. Jaffe | |
| | | US- | 3,408,309 | 10/29/1968 | A. W. Gessner | |
| | | US- | 3,520,796 | 07/14/1970 | H. C. Murphy, Jr., et al. | |
| | | US- | 3,619,414 | 11/9/1969 | Mills, et al. | |
| | | US- | 3,678,124 | 07/18/1972 | Stepanov, et al. | |
| | | US- | 3,850,746 | 11/26/1974 | Robson | |
| | | US- | 3,861,005 | 1/21/1975 | Steinmetz et al. | |
| | | US- | 3,901,828 | 08/26/1975 | Mai, et al. | |
| | | US- | 3,925,197 | 12/9/1975 | Van Klinken, et al. | |
| | | US- | 3,959,179 | 05/25/1976 | Mikovsky, et al. | |
| | | US- | 4,013,545 | 03/22/1977 | Hilfman | |
| | | US- | 4,014.925 | 3/29/1977 | Ferlazzo, et al. | |
| | | US- | 4,113,603 | 09/12/1978 | Bauer | l |
| | | US- | 4,113,605 | 09/12/1978 | Mickelson | |
| | | US- | 4,153,578 | 05/08/1979 | De Thomas, et al. | |
| | | US- | 4,181,602 | 01/01/1980 | Ouick, et al. | |
| | | US- | 4,388,223 | 06/14/1983 | Ferlazzo, et al. | |
| | | US- | 4,392,945 | 07/12/1983 | Howard, et al. | |
| | | US- | 4.491.639 | 01/01/1985 | Happel, et al. | |
| | | US- | 4,596,785 | 6/24/1986 | Toulhoat et al. | |
| | | US- | 4,701,381 | 10/20/1987 | Jack | |
| | | US- | 4,720,477 | 01/19/1988 | Hettinger, Jr. | |
| | | US- | 4,721,558 | 01/16/1988 | Jacobson, et al. | |
| | | US- | 4,748,142 | 05/31/1988 | Chianelli, et al. | |
| | | US- | 4,808,563 | 2/28/1989 | Velenyi | |
| | | US- | 4,820,677 | 04/11/1989 | Jacobson, et al. | · · · · · · · · · · · · · · · · · · · |
| | | US- | 4,824,821 | 04/25/1989 | Lopez, et al. | |
| | | US- | 4,857,496 | 08/15/1989 | Lopez, et al. | |
| | _ | US- | 4,875,992 | 10/24/1989 | Hamner | |
| | | US- | 4,973,397 | 11/27/1990 | Ho | 1 |
| | - | US- | 5,112,472 | 05/12/1992 | Gosselink, et al. | |
| | | US- | 5,122,258 | 6/16/1992 | Eadie et al. | |
| | | US- | 5,244,858 | 09/14/1993 | Usui, et al. | + |
| | | US- | 5,252,199 | 10/12/1993 | Singhal, et al. | |

| Examiner Signature | /John Douglas/ | Date Considered | 05/13/2008 | |
|-----------------------|----------------|--------------------|------------|--|

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PTO/SB/08A (09-06)

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|---|-------------|---|-------------------------------|------------|------------------------|---|---|---|-------------------|--|-----------------|
| Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | | | Application Number | | | Complete if Known | | |
| | | | | | | Filing Date | | 09/869,990 . | | | |
| | | | | | | | | January 14, 2000 Stuart L. Soled, et al. | | | _ |
| | | | | | | First Named Inventor Art Unit | | | solea, | et ai. | |
| | | | | | | | | 1797 | L | er Douglas | |
| | | | | | | Examiner Name Attorney Docket Number | | JHT-0004 | | ier Douglas | |
| Sheet | eet 2 of 4 | | | | | Number | | P1997J05 | | | |
| Sneet | neet | | 5,292,428 | 03/08/19 | | Harrison, et al. | | F 1997303 | / F | | |
| | - | US- | 5,320,741 | 06/14/19 | | Johnson | | | | | |
| | + | US- | 5,446,004 | 08/29/19 | | Tenten, | | | | | |
| | + | US- | 5,565,091 | 10/15/19 | | lino, et | | | | | |
| | + | US- | 5,643,441 | 07/01/19 | | Timker | | | | | _ |
| | - | US- | 5,851,382 | 12/22/19 | | Sudhak | | | | | _ |
| | + | US- | 5,865,988 | 02/02/19 | | Collins | | | | | _ |
| | + | US- | 5,897,768 | 4/27/199 | | | cr et al. | | | | |
| | + | US- | 5,968,346 | 10/19/19 | | Jung, e | | | | | |
| | + | US- | 5,993,643 | 11/30/19 | | Chang. | | | | | _ |
| | +- | US- | 6,002,919 | 12/14/19 | | Posti | o. ai. | | | | |
| | +- | US- | 6,013,598 | 1/11/200 | | Lapinsl | cietal | | | | |
| _ | +- | US- | 6,071,402 | 06/06/20 | | Danot, | | | | | _ |
| _ | + | US- | 6,083,378 | 07/04/20 | | Gildert | | | | | |
| | + | US- | 6,156,694 | 12/05/20 | | Harper | | | | | |
| | + | US- | 6,156,695 | 12/5/200 | | Soled e | | | | | |
| | - | US- | 6,162,350 | 12/19/20 | | Soled e | | | | | |
| | +- | US- | 6,162,351 | 12/19/20 | | | ar, et al. | | | | |
| | - | US- | 6,231,750 | 05/15/20 | | Kasztelan, et al. | | | | | |
| | 1 | US- | 6,231,753 B1 | 05/15/20 | | McKnight, et al. | | | | | |
| | 1 | US- | 6,299,760 | 1/9/2001 | | Soled et al. | | | | | |
| | - | US- | 6,256,695 B1 | 07/03/20 | | Williams | | | | | |
| | | US- | 6,582,590 | 6/24/2003 | | Riley et al. | | | | | |
| | 1 | US- | 6,620,313 | 9/16/200 | | Demmin et al. Hou et al. Haluska et al. Hantzer et al. Riley et al. | | | | | |
| | 1 | US- | 6,712,955 | 3/30/200 | | | | | | | |
| | 1 | US- | 6,755,963 | 6/29/200 | | | | | | | |
| | | US- | 6,758,963 | 7/6/2004 | | | | | | | |
| | + | US- | 6,783,663 | 8/31/200 |)4 | | | | | | |
| | 1 | US- | 2001/0000006 A1 | 03/15/20 | | | Kasztelan, et al. Eijsbouts, et al. | | | | |
| | _ | US- | 2003/0102254 A1 | 06/05/20 | 003 | Eijsbou | | | | | |
| | | | | | | | , | | | | |
| | | | | FOREIG | N PATENT | DOCUM | ENTS | | | | |
| | | | | | Public | | | | | Pages, columns, lines, | l _, |
| Examiner Initials* | Cite No. | | Foreign Patent Document | CE1 | | | | ne of Patentee or | | where relevant passages or relevant figures appear | T ⁶ |
| Initials* | No. | Country code ³ -Number ⁴ -Kind Code ⁵ EP 0183353 BI | | (iI known) | MM-DD-YYYY 27.09.85 | | Applicant of cited docume Chianelli, R. R., et al. | | ent | or relevant tigures appear | ⊢ |
| | - | | EP 0203228 A1 | | 03.1 | | Washecheck et al. Ho et al. | | \rightarrow | | ⊢ |
| | | | EP 0203228 A1 | | 01.0 | | | | -+ | | ┰ |
| | _ | | EP 0244106 B1 | | 09.0 | | | ard, J. W. | | | $\overline{}$ |
| | | | EP 0277718 A2 | | 15.0 | | | D. A., et al. | | | \vdash |
| | | | EP 0379433 A1 | | 18.0 | | | chia, C., et al. | | | |
| | | | EP 0419266 A1 | | 27.0 | 3.91 | Sav | vycr et al. | | | |
| | | | EP 0469675 B1 | | 25.07 | | | in, J. J. L., et a | | | \vdash |
| | | | EP 0590672 A1 | | 30.0 | | | to, T., et al | | | \vdash |
| | | L | EP0590673 A1 | | 30.0 | | | to, T., et al. | _ | | ⊢ |
| | | | EP 0635555 A2 | | 20.0 | | | ro, N., et al. | _ | | ⊢ |
| | _ | | EP 0685260 A2 | | 31.05.95 | | | noto, I., et al. | | | ├- |
| | - | | EP 0849351 B1 | | 12.12 | | | , l. A., et al. ourot, B | - | | ⊢ |
| | - | _ | EP 0900929 BI GB 1,282,950 | | 04.09 2 Feb | | | ourot, B ourty, et al. | + | | \vdash |
| | | - | GB 1,282,950 GB 1,458,887 | | 5 July | | | thetic Rubber (| - | | \vdash |
| | | | DE 3029266 C2 | _ | | .80 | | er, K., et al. | - | | \vdash |
| | | 1 | CN 1218088 | | | | | le, et al. | -1 | Abstract | Т |
| | | | | | 02 June 1999 H | | ne, et al. Abstra | | | | |

PTO/SB/08A (09-06)

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| Substitute fo | or form 1449/P | TO | | Application Nur | Application Number | | 09/869,990 | | | |
| | | | | Filing Date | | January 14, 2000 Stuart L. Soled, et al. 1797 John Christopher Douglas | | | | |
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| | | | | Attorney Docke | t Number | JHT-0004 | | | | |
| Sheet | 3 | of | 4 | Family Number | | P1997J057F | | _ | | |
| T_ | | CZ | 158758A | 15 July 1975 | R. Zi | dek, et al. | Abstract | т | | |
| | | Rt | J 2030444 | 10.03,95 | | | | \neg | | |
| | | PCT V | VO 00/41810 | 20 July 2000 | Eijsbo | uts, S., et al. | | \neg | | |
| | | PCT V | VO 00/41811 | 20 July 2000 | Eijsbouts, S., et al. | | | \neg | | |
| | | PCT WO 00/42119 | | 20 July 2000 | Demmin, R. A., et al. | | | \neg | | |
| | | PCT v | WO 00/42125 | 20 July 2000 | Riley, | , K. L., et al. | | \neg | | |
| | | PCT V | PCT WO 00/42131 20 Ju | | Hantzer, S. S., et al. | | | \neg | | |
| | | PCTV | WO 97/40120 | 30 October 1997 | Lapinski et al. | | | \neg | | |
| | | PCT V | NO 99/03578 | 28 January 1999 | Sol | ed et al. | | | | |
| | | PCT V | WO 99/41327 | 19 August 1999 | 19 August 1999 Cody, I. A., et al. | | | | | |
| | | | | | | | | | | |
| Examiner | /John | Douglas | z/ | | Date | | 05/13/2008 | | | |

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/John Douglas/

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH, /JCD/

PTO/SB/08B (09-06)
Approved for use through 03/31/2007. OMB 0651-0031
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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|-----------------------|--------------|---|---------------|---|--------------------------------|---|--|--|--|
| Substitute for | or form | 1449/PTO | | Application Number | 09/869,990 January 14, 2000 | | | | |
| | | | | Filing Date | | | | | |
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| | (Use a | many sheets | as necessary) | Examiner Name | | | | | |
| | | | | Attorney Docket Number | JHT-0004 | | | | |
| Sheet | | of | 4 | Family Number | P1997J057F | | | | |
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| | | | | TENT LITERATURE DOCUM | | | | | |
| Examiner Initials* | Cite No.1 | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | | | | | |
| | CA | Levin, Doron, et al., "Crystal Structure of an Ammonium Nickel Molybdate Prepared by Chemical Precipitation," <i>Inorganic Chemistry</i> , 1996, 35, pp. 4191-4197 (Sept. 1995). | | | | | | | |
| | СВ | Mazzocchia, C., et al., "On the NiO MoO3 mixed oxide correlation between preparative procedures thermal activation and catalytic properties," <i>Solid State Ionics</i> , 63-65 (1993) pp. 731-735. | | | | | | | |
| | CC | | | l-molybdenum catalysts prepare amolybdate," Applied Catalysis, | | | | | |
| | CD | Olah, George A., Hydrocarbon Chemistry, 1995, p. 30 | | | | | | | |
| | CE | Astier, M.P., et al., "Ammonium Triammine Tetranickel Pentamolybdate Preparation, | | | | | | | |

Characterization and Crystal Structure," Ann. Chem. Fr., 12, pp. 337-343 (1987).

Astier, M.P., et al., "Solid State Chemistry," C.R. Acad. Sc. Paris., 304, (II), No. 11, pp. 563-

Mazzocchia, C., et al., "On the NiMoO4 oxidative dehydrogenation of propane to propene: some physical correlations with the catalytic activity," Catalysis Letters 10 (1991) pp. 181-

Levin, Doron, et al., "Chemie Douce Synthesis of a Layered Ammonium Zinc Molybdate,"

M. Daage, et al., "Structure-Function Relations in Molybdenum Sulfide Catalysts: The "Rim-

| Lancard Control | CIT | | | |
|-----------------------|--------|------------|--------------------|------------|
| | | | | |
| Examiner Signature | /Glenn | Caldarola/ | Date Considered | 11/24/2008 |

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*Applicant's unique citation designation number (orbinal). *Applicant is into place a check mark here if English language Translation is attached.

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CF

CG

CI

CJ CK CL CM 566 (1987).

Chem. Mater. 1996, 8, pp. 836-843.

Edge" Model", Journal of Catalysis, 149, 414-427 (1994).

CH Levi